NORTH CAROLINA DIVISION OF AIR QUALITY

Application Review

Issue Date: DRAFT

Region: Washington Regional Office
County: Wayne
NC Facility ID: 9600058
Inspector's Name: Robert Bright
Date of Last Inspection: 07/01/2020
Compliance Code: 3 / Compliance - inspection

Facility Data

Applicant (Facility's Name): Georgia-Pacific Wood Products LLC - Dudley Plywood/CNS Plant

Facility Address:
Georgia-Pacific Wood Products LLC - Dudley Plywood/CNS Plant
139 Brewington Road
Dudley, NC 28333

SIC: 2436 / Softwood Veneer And Plywood
NAICS: 321212 / Softwood Veneer and Plywood Manufacturing

Facility Classification: Before: Title V **After:** Title V
Fee Classification: Before: Title V **After:** Title V

Permit Applicability (this application only)

SIP: 15A NCAC 02Q .0516(c)
NSPS: N/A
NESHAP: N/A
PSD: N/A
PSD Avoidance: N/A
NC Toxics: N/A
112(r): N/A
Other: N/A

Contact Data

Facility Contact	Authorized Contact	Technical Contact
Brandy Turley Complex Environmental Manager (919) 705-0526 139 Brewington Road Dudley, NC 28333	Michael Golden Plywood Plant Manager (919) 736-4835 138 Brewington Road Dudley, NC 28333	Brandy Turley Complex Environmental Manager (919) 705-0526 139 Brewington Road Dudley, NC 28333

Application Data

Application Number: 9600058.20B
Date Received: 06/30/2020
Application Type: Modification
Application Schedule: TV-Sign-501(b)(2) Part II

Existing Permit Data
Existing Permit Number: 09268/T27
Existing Permit Issue Date: 03/27/2020
Existing Permit Expiration Date: 02/20/2025

Total Actual emissions in TONS/YEAR:

CY	SO2	NOX	VOC	CO	PM10	Total HAP	Largest HAP
2019	7.41	150.79	448.32	633.22	153.49	49.10	30.28 [Methanol (methyl alcohol)]
2018	7.19	136.49	432.92	238.80	131.65	49.22	30.74 [Methanol (methyl alcohol)]
2017	22.75	168.02	542.52	699.20	152.02	70.50	33.81 [Methanol (methyl alcohol)]
2016	21.48	159.91	503.19	662.22	142.46	65.54	31.19 [Methanol (methyl alcohol)]

Review Engineer: Kevin Godwin

Review Engineer's Signature: **Date:**

Comments / Recommendations:
Issue 09268/T28
Permit Issue Date: DRAFT
Permit Expiration Date: 02/20/2025

I. Purpose of Application

This permit action is Part II of a significant modification under 15A NCAC 02Q .0516(c). Pursuant to 15A NCAC 02Q .0501(b)(2), the applicant is filing this complete application within 12 months after commencing operation to modify the construction and operation permit to meet the requirements of 40 CFR Part 70. This application will go through a 30-day public comment period and a 45-day EPA review at this time. The Permit Review for the Part I application is attached to this document (see Attachment I).

According to the application, the plant started using the APCs on the veneer dryers and boiler on July 4, 2019 and notification of equipment startup was sent as required on July 24, 2019.

Application Chronology

Received Part II application	June 30, 2020
Application deemed complete	July 2, 2020
Acknowledgement letter sent	July 22, 2020
Received comments from the Washington Regional Office (WARO)	July 22. 2020
Draft sent to Supervisor	October 8, 2020
Draft provided to the applicant and WARO	October 8, 2020
Draft Permit to Public Notice and EPA	XXXX
Public comment period expired	XXXX
EPA review period expired	XXXX
Final Permit issued	XXXX

II. Compliance Status

According to the July 22, 2020 memo, the most recent full compliance evaluation was performed on July 1, 2020 by Robert Bright of the Washington Regional Office. During the inspection, the facility appeared to operate in compliance with all applicable air quality regulations and permit conditions.

III. Changes to Permit

The following table provides a summary of changes made to the Air Quality Permit No. 09268T27:

Pages	Section	Description of Changes
44	2.2 D.2.	Removed requirement for Part II application submittal.
46	3.0	Updated General Conditions to most recent shell version (version 5.5 08/25/2020).

IV. Public Notice/EPA and Affected State(s) Review

A notice of the DRAFT Title V Permit will be made pursuant to 15A NCAC 02Q .0521. The notice provides for a 30-day comment period, with an opportunity for a public hearing. Copies of the public notice will be sent to persons on the Title V mailing list and EPA. Pursuant to 15A NCAC 02Q .0522, a copy of each permit application, each proposed permit and each final permit pursuant will be provided to EPA. Also pursuant to 02Q .0522, a notice of the DRAFT Title V Permit will be provided to each affected State at or before the time notice provided to the public under 02Q .0521 above.

V. Other Regulatory Considerations

- A P.E. seal is not required for this application.
- A zoning consistency determination is not required for this application.
- A permit fee of $988.00 is required for this application and was included.
- According to the application, the facility has determined that no chemicals are stored in a quantity above the 112r triggering threshold and thus is not subject to 112r requirements.
- The application was signed by Mr. Michael Golden, Plywood Plant Manager as the designated Responsible Official on June 25, 2020.

VI. Recommendations

The Part II application for Georgia-Pacific Wood Products LLC – Dudley Plywood/CNS Plant, Wayne County, NC has been reviewed by DAQ to determine compliance with all procedures and requirements. DAQ

has determined that this facility is complying or will achieve compliance, as specified in the permit, with all requirements that are applicable to the affected sources. The Public Comment and EPA review periods expired on XXXX with XXXX comments received. Therefore, DAQ will make a recommendation for Permit issuance following the Public Comment and EPA review periods.

Attachment I – Permit Review for Part I of the Significant Modification

NORTH CAROLINA DIVISION OF AIR QUALITY

Application Review

Issue Date: January 29, 2019

Region: Washington Regional Office
County: Wayne
NC Facility ID: 9600058
Inspector's Name: Robert Bright
Date of Last Inspection: 10/02/2018
Compliance Code: 3 / Compliance - inspection

Facility Data

Applicant (Facility's Name): Georgia-Pacific Wood Products LLC - Dudley Plywood/CNS Plant

Facility Address:
Georgia-Pacific Wood Products LLC - Dudley Plywood/CNS Plant
139 Brewington Road
Dudley, NC 28333

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Facility Classification: Before: Title V **After:** Title V
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Permit Applicability (this application only)

SIP: N/A
NSPS: N/A
NESHAP: N/A
PSD: N/A
PSD Avoidance: 15A NCAC 02D .0530(u)
NC Toxics: N/A
112(r): N/A
Other: N/A

Contact Data

Facility Contact	Authorized Contact	Technical Contact
Brandy Turley Complex Environmental Manager (919) 705-0526 139 Brewington Road Dudley, NC 28333	Michael Golden Plywood Plant Manager (919) 736-4385 139 Brewington Road Dudley, NC 28333	Brandy Turley Complex Environmental Manager (919) 705-0526 139 Brewington Road Dudley, NC 28333

Application Data

Application Number: 9600058.18C
Date Received: 09/25/2018
Application Type: Modification
Application Schedule: TV-Sign-501(b)(2) Part I

Existing Permit Data
Existing Permit Number: 09268/T24
Existing Permit Issue Date: 04/09/2018
Existing Permit Expiration Date: 09/30/2019

Total Actual emissions in TONS/YEAR:

CY	SO2	NOX	VOC	CO	PM10	Total HAP	Largest HAP
2017	22.75	168.02	542.52	699.20	152.02	70.50	33.81 [Methanol (methyl alcohol)]
2016	21.48	159.91	503.19	662.22	142.46	65.54	31.19 [Methanol (methyl alcohol)]
2014	32.08	340.64	327.34	795.15	265.78	39.74	22.23 [Methanol (methyl alcohol)]
2013	23.06	256.61	313.61	586.94	188.33	37.09	21.20 [Methanol (methyl alcohol)]

Review Engineer: Kevin Godwin

Review Engineer's Signature: **Date:**

Comments / Recommendations:
Issue 09268/T25
Permit Issue Date: 01/29/2019
Permit Expiration Date: 09/30/2019

I. Introduction and Purpose of Application

A. Georgia-Pacific Wood Products LLC (GP) operates a Chip-N-Saw (CNS) Plant and a Plywood Manufacturing Plant at this Dudley, Wayne County site.

B. According to Application No. 9600058.18C, the facility currently operates four Veneer Dryers (ID Nos. ES-VD1 through ES-VD4) that are indirectly heated with steam generated from the wood-fired boiler (ID No. ES-B1). GP is proposing to install Advanced Process Controls (APCs) on the Veneer Dryers and Boiler. The APC is a computer software package that optimizes operational decision making.

C. Because this modification does involve a significant change to existing monitoring, recordkeeping, and reporting requirements, it is being processed as a significant modification under 15A NCAC 02Q .0516.

II. Application Chronology

Application received and deemed complete for processing	September 25, 2018
Draft to the Applicant and Regional Office	December 13, 2018
Response to Draft from Regional Office	December 18, 2018
Response to Draft from Applicant	December 18, 2018
Draft to Supervisor	January 4, 2019
Permit Issued	January 29, 2019

III. Changes to Existing Air Permit

The following table provides a summary of changes made to the existing permit.

Page No.	Condition/ Item	Description of Change(s)
Throughout	N/A	Change the application number and complete date; Change permit revision number to T24; Change the permit issuance/effective dates.
Cover letter	N/A	Updated PSD increment tracking paragraph.
52	2.2 F.1.	Included condition pertaining to monitoring under 15A NCAC 02D .0530(u): USE OF PROJECTED ACTUAL EMISSIONS TO AVOID APPLICABILITY OF REQUIREMENTS OF PSD.
53	2.2 F.2.	Included condition pertaining to 15A NCAC 02Q .0504: OPTION FOR OBTAINING CONSTRUCTION AND OPERATION PERMIT
53	3	Included most recent shell version (version 5.3, 08/21/2018) General Conditions.

IV. Statement of Compliance

The most recent full compliance evaluation was performed on September 26, 2018 by Mr. Robert Bright of the Washington Regional Office (WARO). According to the inspection report, during the inspection, the facility appeared to operate in compliance with all applicable air quality regulations and permit conditions.

The five-year compliance history is outlined in the inspection report as follows:

A Notice of Deficiency (NOD) was issued on August 15, 2014 for the late submittal of the semi-annual summary report due July 30, 2014.

A NOD was issued on March 12, 2015 for not conducting the monthly external inspections required in November 2014 for the Chip-N-Saw control devices via Permit Specific Condition 2.1.H.1. The inspections were completed on December 3, 2014. Via conversations between Robert Bright of WaRO and Brandy Turley of GP, it was understood that the required inspections were performed during November 2014, but not documented.

A Notice of Violation (NOV) was issued to the facility on October 9, 2015 regarding a September 17, 2015 Startup, Shutdown and Malfunction (SSM) Deviation Notification where the three-hour average combustion temperature for chamber two of the regenerative thermal oxidizer (RTO) dropped below the permit-required minimum of 1,580ºF for three consecutive three-hour blocks (1500 – 2400 hours). A discussion between Mr. Brandon Grissom, Regional Environmental Manager and Mr. Robert Bright of this office indicated that trash impeded chamber two's performance and the RTO programmed interlock sensitivity resulted in the operation below the permitted minimum. The report itself states that "the actions taken were inconsistent with the facility's SSM plan." WaRO did not believe the total HAP destruction efficiency fell below the 90 percent minimum required by 40 CFR Part 63, Subpart DDDD during this incident.

Note: The NOV dated 10/9/15 was questioned by GP stating that the use of a rolling three-hour average in lieu of the three-hour block average is not required in DDDD. Per discussion with Brandy Turley, the NOV reflected block averages, which increases the time of non-compliance to nine hours, instead of eight hours, forty-five minutes via three consecutive three-hour blocks. The NOV was received by WaRO the week of October 19, 2015. The revised NOV (kept the same date) was issued to the facility on November 9, 2015.

V. Regulatory Review – Specific Emission Source Limitations

A. 15A NCAC 02D .0503 "Particulates from Fuel Burning Indirect Heat Exchangers" – This Rule applies to the boiler (ES-B1) when firing natural gas/propane. The existing Permit includes a condition pertaining to the requirements under this Rule (2.1 E.1.). The PM limit is 0.33 lb/million Btu. No monitoring or recordkeeping is required. Continued compliance is expected.

B. 15A NCAC 02D .0504 "Particulates from Wood Burning Indirect Heat Exchangers" – This Rule applies to the boiler (ES-B1) when firing wood. The existing Permit includes a condition pertaining to the requirements under this Rule (2.1 E.2.). The PM limit is 0.34 lb/million Btu. Continued compliance is expected.

C. 15A NCAC 02D .0516 "Sulfur Dioxide Emissions from Combustion Sources" – This Rule applies to the boiler. The existing Permit includes a condition pertaining to this Rule (2.1 E.3.). The sulfur dioxide limit is 2.3 lb/million Btu. Compliance is expected.

D. 15A NCAC 02D .0521 "Control of Visible Emissions" - This Rule applies to the boiler and veneer dryers. The visible emissions standard is 20% opacity. The existing Permit includes a condition pertaining to this Rule (2.1 E.4.). Compliance is expected.

E. 15A NCAC 02D .1100 "Toxic Air Pollutant Emissions Limitation" – This project will not result in an increase in toxic air pollutant (TAP) emissions. Therefore, a revised modeling demonstration is not required.

VI. Regulatory Review – Multiple Emission Source Limitations

A. 15A NCAC 02D .0530 "Prevention of Significant Deterioration" – This facility is a PSD major stationary source. Emissions increases from the project must be compared to the PSD significant emission rate (SER).

After the APCs project, the Veneer Dryers are expected to increase actual production by 9.6 million square feet per year as a result of improved efficiency and a reduction in the time needed to re-dry some portion of the current volume of veneer. The project will not increase the Veneer Dryers' capacity beyond the current permitted capacity of 438 million square feet per year.

The APC project on the Boiler is expected to result in improved efficiency and fewer load swings. Stabilization of load swings is expected to result in an increase in boiler efficiency, meaning lower heat input will be required to generate the required amount of steam. In turn, less fuel will be combusted to generate the required heat input.

For existing units, the change in emissions resulting from a proposed project may be calculated using the "baseline actual-to-projected actual" test. GP has chosen this methodology for this project.

Baseline Actual Emissions (BAE)
For existing units BAE is defined as "the average rate, in tons per year, at which the emissions unit actually emitted the pollutant during any consecutive 24-month period selected by the owner/operator within the five-year period immediately preceding the date that a complete application is received by the Division for a permit required under this Rule." Total BAE for the Veneer Dryers and Boiler were calculated from the 24-month annualized period of January 2016 to December 2017. Throughput information was based in actual production date for this period and equals 317,604 thousand square feet/yr.

Projected Actual Emissions (PAE)
As the proposed project will not increase the Veneer Dryers' or Boilers' design capacity, the PAE were based on the projected maximum annual throughput rate for the five-year period after implementation of the project. Projected production capacity of the Veneer Dryers is expected to be 375,000 thousand square feet per year for the next five years. This throughput is used to calculate PAE. PAE for the Boiler are based on the heat input rate of 177 million Btu per hour and 8,760 hours of operation.

Could Have Accommodated Emissions (CHA)
In calculating PAE, the applicant shall exclude that portion of the unit's emissions following the project that an existing unit could have accommodated during the consecutive 24-month period used to establish the BAE and that are also unrelated to the particular project, including any increased utilization due to product demand growth.

In estimating CHA emissions, the highest monthly emission rate during the 24-month baseline period was selected and annualized based on the maximum annual hours of operation of the Veneer Dryers and the Boiler.

In order to be excluded from PAE, CHA emissions must also be unrelated to the particulate project. The "excludable" emissions (EE) were calculated as the lesser of the "emissions increases not related to the project" and the difference between CHA emissions and BAE.

<u>Associated Source Emissions Increases</u>
Pollutant emissions increases associated with the affected sources have also been calculated as part of the PSD analysis. It is assumed that all process equipment at the Dudley Plywood Plant could be impacted by the project.

An increase in log throughput to support the proposed increase in Veneer Dryer throughput will result in an increase in log Cores which will be sent to the Dudley CNS Plant. The affected sources also include the direct-fired continuous kilns (ID Nos. ES-LK4, LK5, and LK6), small chipper (ID No. IS-SC), flat screen (ID No. F-FS), chip bin (ID No. IF-BS), planer shaving bin (ID No. IF-PSB), sawdust conveying system (ID No. ES-SCS), planer mill conveying systems (ID No. ES-PMCS and PSCS), and paved and unpaved roads at the Dudley CNS Plant.

The emissions increases associated with the affected sources are calculated using the baseline-to-projected actual calculation methodology. The projected actual production rates for all process equipment at the

Plywood Plant upstream of the veneer dryers were determined by increasing the baseline actual production rate by the ratio of total baseline actual veneer dryer production to total projected actual veneer dryer production. The projected actual production rate for units downstream of the dryers was calculated in a similar fashion but using the ratio calculated from actual to future plywood press production. The projected actual production rate for the affected units at the Dudley CNS Plant was determined by increasing the baseline actual production rate by the ratio of baseline actual kiln production associated with Cores throughput only to projected actual kilns production associated with Cores throughput only.

15A NCAC 02D .0530(u) – Because this project uses the PAE to avoid PSD applicability, the application includes:

- A description of the project,
- Identification of sources whose emissions could be affected,
- Calculated PAE and an explanation of how PAE were calculated,
- Calculated BAE and an explanation of how BAE were calculated.

A condition is placed in the Permit which includes PAE and requires GP to monitor emissions of pollutants that could increase and calculate and maintain records of annual emissions for a period of five years following resumption of regular operations after the change.

B. 15A NCAC 02D .0524 "New Source Performance Standards, Subpart Db" – The boiler has a heat capacity greater than 100 million Btu/hr, however it was constructed prior to the June 19, 1984 applicability date and has not been reconstructed or modified since. Adding the APCs does not meet the definition of reconstruction or modification under this regulation. Therefore, the boiler is not subject to Subpart Db.

C. 15A NCAC 02D .1109: "112(j) Case-by-Case MACT for Boilers and Process Heaters" – The boiler is currently subject to this Rule. The existing Permit includes a condition pertaining to the requirements under this Rule (2.1 E. 7.). This project will not affect applicability to this Rule.

D. 15A NCAC 02D .1111 "40 CFR Part 63, MACT - Subpart DDDD" – GP is a major source of hazardous air pollutants (HAP) and is subject to this Rule. The existing Permit includes a condition pertaining to the requirements under this Rule (2.2 C.). This project will not affect applicability to this Rule.

VII. Emissions Estimates

According to the application, GP determined the appropriate emission factors to use for each emission unit using various methods and sources, including:

- Published National Council for Air and Stream Improvement, Inc. (NCASI) technical bulletins and other publications,
- U.S. EPA, AP-42, Compilation of Emission Factors (5^{th} Edition, Revised),
- Permit limits and Engineering Estimates,
- U.S. EPA Mandatory Greenhouse Gas (GHG) Reporting (40 CFR 98), and
- Stack test data from testing conducted at Dudley Plywood Plant as well as other similar GP and competitor facilities.

Example Calculation

Veneer Dryers (ES-VD1 – 4): Baseline production rate = 317,604 thousand square feet/yr
Projected actual production rate = 375,000 thousand square feet/yr

Baseline VOC (as C) = (0.086 lb/million square feet) * (317,604 thousand square feet/yr) = 13.73 tpy
emission factor is the January 2014 stack test result

Projected VOC (as C) = (0.115 lb/million square feet) * (375,000 thousand square feet/yr) = 21.50 tpy
emission factor is the average of source specific stack tests from 2010 and 2014 plus a 20% safety factor

Detailed calculations for the Veneer Dryers hot zones and cooling zones are include in Attachment 1 to this document.

The following table is taken from the application and provides a summary of Total Project increases.

Modified Source Analysis – Veneer Dryers (ES-VD1-4) including Cooling Zones – Projected Actual Emissions Minus Baseline Actual Emissions

Emission Unit	PM (tpy)	PM_{10} (tpy)	$PM_{2.5}$ (tpy)	NOx (tpy)	CO (tpy)	SO_2 (tpy)	VOC (tpy)	Lead (tpy)	Total GHG (tpy)	Total CO_2e (tpy)
Baseline Actrn1l Emissions (BAE)	19.72	27.03	24.81	1.26	22.30	7.056-03	27.68	5.88E-06	1,411	1,413
Projected Actual Emissions (PAE)	23.29	31.92	29.30	1.49	26.33	8.33E-03	39.24	6.94E-06	1,666	1,668
PAE minus BAE	3.56	4.89	4.48	0.23	4.03	1.27E-03	11.56	1.06E-06	255	255
Project-Related Emissions (PRE) [1]	0.60	0.82	0.75	0.04	0.67	2.13E-04	1.00	l.78E-07	43	43
Emission Increases Not Related to the Project [2]	2.97	4.07	3.73	0.19	3.36	1.06E--03	I0.56	8.85E--07	212	213
Annualized Maximum Monthly Baseline Emissions [3]	23.01	31.54	28.94	1.47			32.29			
"Could Have Accommodated" (CHA) Emissions [4]	23.01	31.54	28.94	1.47			32.29			
CHA minus BAE	3.29	4.50	4.13	0.21			4.61			
Excludable Emissions (EE)[5]	297	4.07	3.73	0.19			4.61			
A – Modified Source Emissions from Veneer Dryers (ES-VD1-4) [(PAE-EE)-BAE]	0.60	0.82	0.75	0.04	4.03	1.27E-03	6.95	1.06E-06	255	255

Modified Source Analysis – Wood Residual/Bark-Fired Boiler (ES-B1) – Projected Actual Emissions Minus Baseline Actual Emissions

Emission Unit	PM (tpy)	PM_{10} (tpy)	$PM_{2.5}$ (tpy)	NOx (tpy)	CO (tpy)	SO_2 (tpy)	VOC (tpy)	Lead (tpy)	Total GHG (tpy)	Total CO_2e (tpy)
Wood Residual/Bark-Fired Boiler (ES-B1)										
Baseline Actual Emissions (BAE)	89.63	91.65	91.65	131.81	99.04	2.11	1.78	2.42E-02	143,475	145,374
Projected Actual Emissions (PAE)	107.04	109.63	109.63	176.76	116.10	2.83	1.99	2.7IE-02	160,337	162,460
PAE minus BAE	17.41	17.98	17.98	45.0	17.06	0 .72	0.21	2.85E-03	16,862	17,085
Project-Related Emissions (PRE) [1]	2.77	2.83	2.83	4.57	3.00	0.07	0.05	6.99E-04	4,144	4,199
Emission Increases Not Related to the Project [2]	14.64	15.14	15.14	40.38	14.06	0.65	0.16	2.15E-03	12,718	12,887
Annualized Maximum Monthly Baseline Emissions 3	100.51	102.77	102.77	147.80			2.00			
"Could Have Accommodated" (CHA) Emissions [4]	100.51	102.77	102.77	147.80			1.99			
CHA minus BAE	10.88	11.12	11.12	15.99			0.21			
Excludable Emissions (EE)[5]	10.88	11.12	11.12	15.99			0.16			
B – ES-B1 Emission Increase [(PAE- EE)- BAE]	6.53	6.86	6.86	28.96	17.06	0.72	0.05	2.85E-03	16,862	17,085

Affected Source Analysis – Plywood Plant and CNS Plant – Projected Actual Emissions Minus Baseline Actual Emissions

Emission Unit	PM (tpy)	PM_{10} (tpy)	$PM_{2.5}$ (tpy)	NOx (tpy)	CO (tpy)	SO_2 (tpy)	VOC (tpy)	Lead (tpy)	Total GHG (tpy)	Total CO_2e (tpy)
Baseline Actual Emissions (BAE)										
Total Baseline Actual Emissions for Affected Sources	30.61	12.79	6.96	2.18	16.01	0.10	177.37	1.09E-03	6,443	6,528
Projected Actual Emissions (PAE)										
Total Projected Actual Emissions for Affected Sources	36.42	15.56	8.61	257	18.91	0.12	209.42	1.28E-03	7,608	7,708
C – Associated Emission Increases (PAE - BAE)	5.81	2 .77	1.65	0.39	2.89	l.79E-01	32.05	l. 96 E-04	1,164	1,180

Step 1 Project PSD Analysis

Total Project	PM (tpy)	PM_{10} (tpy)	$PM_{2.5}$ (tpy)	NOx (tpy)	CO (tpy)	SO_2 (tpy)	VOC (tpy)	Lead (tpy)	Total GHG (tpy)	Total CO_2e (tpy)
Total Emission Increases (A+ B + C)	12.94	10.45	9.25	29.39	23.98	0.74	39.06	3.04E-03	18,282	18,521
PSD SER	25	15	10	40	100	40	40	0.6	75,000	75,000
PSD Analysis	No	No	No	No	No	No	No	No	No	No

1. Project-related emissions represent that portion of PAE that is directly attributable to the proposed project.
2. "Emission Increases Not Related to the Project" represent that portion of PAE minus BAE that is not directly related to the project.

3 When determined, the annualized maximum monthly baseline emissions are calculated as the monthly emission rates divided by the hours of operation in the given month, and finally multiplied by the maximum annual hours of operation over the entire baseline review period.

4. CHA emissions are the minimum of PAE and the annua1ized maximum monthly emissions.

5. Excludable emissions are that level of emissions greater than BAE that a unit could have accommodated during the 24-month baseline period and are unrelated to the project. Excludable emissions are calculated as the lesser of "Emission Increases Not Related to the Project" and "CHA - BAE".

VIII. Other Regulatory Requirements

- An application fee of $947.00 is required and was received by the DAQ.
- The appropriate number of application copies was received on September 25, 2018.
- A Professional Engineer's Seal is required for this application and was included (ref. Charity Coury, P.E. Seal No. 039697, 8/27/18).
- Receipt of the request for a zoning consistency determination was acknowledged by Berry Gray, Planning Director, Wayne County Planning Dept., on September 21, 2018. The proposed operation is consistent with applicable zoning ordinances.
- Public notice is not required for this Part 1 of a Significant Modification under 15A NCAC 02Q .0501(b)(2).
- IBEAM Title V Equipment Editor (TVEE) update was verified on January 4, 2019.
- According to the application, the facility does not handle any of the substances subject to 112(r) at quantities greater than the applicability threshold.
- The application was signed by Mr. Michael Golden, Plywood Plant Manager, on September 19, 2018.

IX. Recommendations

This permit application has been reviewed by the DAQ to determine compliance with all procedures and requirements. The DAQ has determined that this facility is expected to achieve compliance as specified in the permit with all applicable requirements. The applicant and the WARO were provided a draft permit on December 13, 2018. The WARO responded on December 18, 2018 with no comments. The applicant responded on December 18, 2018 with minor comments. All comments have been addressed. The DAQ recommends issuance of Permit No. 09268T25.

Attachment 1

Modified Source Analysis - Four Steam-Heated Veneer Dryers (ES-VDl-4) Hot Zones - (Controlled by RTO) Production/Operation Data

Baseline Production Rate	317,604	MSF/yr @ 3/8"
Corresponding Natural Gas Usage Rate Projected	24	MMscflyr
Actual Production Rate	375,000	MSF/yr @ 3/8"
Corresponding Natural Gas Usage Rate Project Related	28	MMscflyr
Production Rate	9,600	MSF/yr @ 3/8"
Corresponding Natural Gas Usage Rate Natural Gas	0.71	MMscflyr
Heating Value [1]	l.026E-03	MMBtu/scf

1. High heat value for Natural Gas from Table C-1 of EPA's Mandatory Reporting Rule for Greenhouse Gases (40 CFR 98).

Emissions Calculations

Pollutant	Emission Factor (lb/MSF@ 3/8") (lb/MMs	Sourc	BAE (tpy)	PAE (tpy)	PRE (tpy)
PM	0.011	1	1.78	2.10	0.05
PM10	0.057	1	9.09	10.73	0.27
PM 2 5	0.057	1	9 09	10.73	0.27
NOx	0.008	1	1.26	1.49	0.04
CO	0.097	1	15.47	18.27	0.47
SO_2	0.60	2	7.05E-03	8.33E-03	2.13E-04
VOC (as C)		3	13.73	21.50	0.55
VOC (as WPP!)		3,4	17.15	26.81	0.69
Lead	5.00E-04	2	5.88E-06	6.94E-06	1.78E-07
Total GHG	116.98 lb/MMBtu	5	1,411	1,666	43
Total C0 2e	117.10 lb/MMBtu	5	1,413	1,668	43

1. NCASI Wood Products Database February 2013 for an indirectly heated Veneer Dryer, median plus 20% safety factor. PM is filterable only. PM_{10} and $PM_{2.5}$ include PM filterable plus condensable emissions.

2. AP-42, Section 1.4, Natural Gas Combustion, Table 1.4-2 (July 1998).

3. Baseline VOC (as C) emission factor is the January 2014 stack test result.
   VOC (as C) = 0.086 lb/MSF@ 3/8"
   Projected VOC (as C) emission factor is the average of source specific stack tests from 2010 and 2014 plus a 20% safety factor.
   VOC (as C) = 0.115 lb/MSF@ 3/8"

4. VOC as WPP1 = VOC as propane + methanol + formaldehyde - 0.65*methanol as propane. Baseline VOC (as WPP1) = 0.108 lb/MSF@ 3/8"
   Projected VOC (as WPP1) = 0.143 lb/MSF@ 3/8"

5. EPA's Mandatory Reporting Rule for GHGs, Subpart C, Tables C-1 and C-2 (40 CFR 98).

Formaldehyde and Methanol Emission Factors for Use in VOC as WPP1 Calculations

Pollutant	CAS	Emission Factor (lb/MSF@ 3/8")	Sourc
Formaldehyde	50-00-0	1.23E-03	1 1
		l.48E-03	
Methanol	67-56-1	2.16E-03	2
		2.59E-03	2

1. For baseline VOC (as WPP1) - NCASI Wood Products Database February 2013 for an indirectly heated Veneer Dryer, median value.
   For Projected VOC (as WPP1) - NCASI Wood Products Database February 2013 for an indirectly heated Veneer Dryer, median value plus 20% safety factor.

2. For baseline VOC (as WPP1) - NCASI Wood Products Database February 2013 for Veneer Dryer, median value.
   For baseline VOC (as WPP1) - NCASI Wood Products Database February 2013 for Veneer Dryer, median value plus 20% safety factor.

Modified Source Analysis - Four Steam-Heated Veneer Dryers (ES-VDl-4) Cooling Zones

Production/Operation Data

Baseline Production Rate	317,604	MSF/yr@ 3/8"
Projected Actual Production Rate	375,000	MSF/yr@3/8"
Project Related Production Rate	9,600	MSF/yr@ 3/8"

Emissions Calculations

Pollutant	Emission Factor (lb/MSF@ 3/8")	Source	BAE (tpy)	PAE (tpy)	PRE (tpy)
PM	0.113	1	17.94	21.19	0.54
PM_{10}	0.113	1	17.94	21.19	0.54
$PM_{2.5}$	0.099	1	15.72	18.56	0.48
CO	0.043	2	6.83	8.06	0.21
VOC (as C)	0.050	2	7.94	9.38	0.24
VOC (as WPPl)	0.066	3	10.53	12.43	0.32

1. PM emission factors represent average cooling vent emission factors from stack testing performed at the GP Madison Mill, June 11-19, 2013. Includes a one standard deviation as safety factor.
2. Emission factor per AP-42, Section 10.5, Plywood Manufacturing, Table 10.5-2 and 10.5-3, Indirect Heated, Cooling Section Softwood.
3. VOC as WPPl = VOC as propane + methanol + formaldehyde - 0.65*methanol as propane.

Formaldehyde and Methanol Emission Factors for Use in VOC as WPP1 Calculations

Pollutant	CAS	Emission Factor (lb/MSF @ 3/8")	Source
Formaldehyde	50-00-0	1.17E-03	1
Methanol	67-56-1	5.69E-03	1

1. NCASI Wood Products Database February 2013 for Veneer Cooler, median value.